

REMARKS

The present Amendment is in response to the Office Action mailed March 7, 2007. Claims 2-3, 7-8, 11-13, and 16-29 are cancelled and claims 1, 4-6, 9-10, 14-15, and 30 are amended. Claims 1, 4-6, 9-10, 14-15, and 30-31 remain pending in view of the above amendments.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Rejection Under 35 U.S.C. §102(e)

The Office Action rejected claims 1, 4-6, 9-12, 15, 30 and 31 under 35 U.S.C. § 102(e)¹ as being anticipated by U.S. Patent Publication No. 2004/0073874 (*Poibeau*). Because *Poibeau* fails to teach or suggest each and every element of the claims, Applicants respectfully submits that *Poibeau* fails to meet the standards of anticipation.

Embodiments of the invention relate to integrating free text with structured data. Claim 1 requires accessing a database of data records including structured data and unstructured data. The Office Action suggests that *Poibeau* teaches accessing a database containing records of mixed structured and unstructured data. See Office Action at pg. 8. Applicant's respectfully disagree.

Claim 1 is amended to clarify that the unstructured data is independent of the structured data and related to the structured data. For example, the specification describes that a data record of a customer service record may identify structured data such as a product identity, a customer identify, a date. When a problem is disclosed,

¹ Because *Poibeau* is only citable under 35 U.S.C. § 102(e) Applicants do not admit that *Poibeau* is in fact prior art to the claimed invention but reserve the right to swear behind *Poibeau* if necessary to remove it as a reference.

the problem may be entered into the record as unstructured data such as free text. In this example, the free text is related to the structured data yet independent of the structured data. The structured data required by claim 1 is not dependent or derived from the unstructured data in this example.

The Examiner suggests that the *Poibeau* teaches structured data when it teaches that a document contains a title and a header (which the Office Action identifies as structured data) and free text (which the Office Action identifies as unstructured data). See ¶[0028]. However, this type of data (the title and the header) taught by *Poibeau* are not independent of the unstructured data as required by claim 1. The structured data mentioned by *Poibeau* is generated in response to or directly from the unstructured data. For example, the electronic mail headers are dependent on the email and not independent of the email.

More specifically, the portion of *Poibeau* cited by the Office Action teaches that *Poibeau* is extracting all of the information from a document. *Poibeau* states that “structured documents enable simple extraction, without linguistic analysis, since they have headers or characteristic structures . . .”. See ¶[0028]. This illustrates that the structured data taught by *Poibeau* does not exist in a database as required by claim 1, but is simply extracted from the document itself. As a result, the structured data of *Poibeau* is not independent of the unstructured data in sharp contrast to the requirements of claim 1, which requires that the structured data exists independently of the unstructured data.

For at least these reasons, *Poibeau* fails to teach or suggest “accessing a database of data records containing both structured data and unstructured data, the unstructured data including at least some free text, the unstructured data, the unstructured data relating to and independent of the structured data of the data record in which the unstructured data is found” as required by claim 1 and as similarly required by claim 30.

Claim 1 has been further amended to require “integrating said relational facts with said structured data in the database of data records such that the data records

relate the relational facts with the structured data". Thus, the relational facts obtained from the free text is then related back to the original structured data in claim 1.

Poibeau fails to teach or suggest this requirement of claim 1. Once the information is extracted in *Poibeau*, there is no teaching of integrating the extracted data back into the original database and with the original structured data. As discussed previously, this effectively cannot be achieved because there is no database of structured data (as required by claim 1) taught by *Poibeau* and because the structured data identified in the Office Action is dependent on the document, whereas claim 1 requires that the unstructured data is related to and independent of the structured data initially.

After claim 1 integrates the relational facts with the structured data, claim 1 requires performing an analysis on the data records such that results of the analysis include at least some of the structured data and some of the relational facts. For example, the specification illustrates an example where customer feedback (free text) is integrated with structure data such as flight routes, aircraft models, etc. See specification ¶[0028]. The results of this analysis can correlate the feedback to the routes, ticket centers, or personnel. Claim 6, for example, further recites that the analysis may identify uncategorized problems, correlate facts with sales personnel, and detect fraud.

Advantageously, the integration of the relational facts with structured data results in a database that enables the relational facts to be automatically analyzed. Performing an analysis on the data records, as required by claim 1, allows trends, outliers, facts, events, attributes to be automatically analyzed.

For example, Figure 4b of the specification illustrates structured data and unstructured data as well as the integration of relational facts with structured data. In this example, the structured data 400b2 is an example of structured data that can be collected, for example, by an entity. The structured data can usually be captured in a highly structured form that is readily readable and interpretable by a computer. Figure 4b illustrates that the structured data identifies a customer number, a call date, a time of

the call, a product identifier, and a problem number. This structured information is of use to the entity and has value on its own, independently of the unstructured data.

Figure 4b also illustrates unstructured data 400b1. In Figure 4b, the unstructured data includes notes (e.g., free text) from the customer call. The notes can be entered, for example, when fielding a call at a call center. However, the unstructured information is typically entered as text and is not readily understood by a computer – unlike the structured data which can be readily understood by a computer. Further, Figure 4b illustrates that the structured data 400b2 is not from the structured data as taught by *Poibeau*. Rather, unstructured data 400b2 is independent of the unstructured data.

In Figure 4b, the unstructured data is also associated with the same customer number as the structured data. However, the unstructured data is not yet integrated with the structured data. Claim 1 later integrates relational facts (obtained from the free text of the unstructured data) with the structured data.

After accessing the structured data and the unstructured data, claim 1 interprets the free text linguistically and linguistically to generate syntactic roles and thematic roles. Relational facts are then extracted the syntactic and thematic roles. The relational facts are then integrated with the structured data.

This process of integrating relational facts from the free text with the structured data is distinct from the process taught by *Poibeau*, which extracts both structured data and unstructured data from a document. See ¶¶[0028]-[0034]. *Poibeau* fails to integrate any extracted data back to the original structured data.

Poibeau therefore fails to teach or suggest many of the requirements of the claimed invention for several different reasons. As illustrated above, *Poibeau* fails to disclose both the structured and unstructured data as required by claim 1. Rather, the structured data and unstructured data of *Poibeau* are not independent of each other. The structured data of *Poibeau* does not exist independently of the unstructured data, in contrast to the structured data required by claim 1. Thus, there is no teaching or suggestion of structured data as required by claim 1.

With this difference, the remaining elements of claim 1 are likewise not taught or suggested by *Poibeau* because *Poibeau* does not disclose the original structured data

and does not disclose that the relational facts are then integrated back into the database along with the structured data as illustrated in figure 4b, for example.

Poibeau further fails to perform an analysis on the data records of the structured data with the relational facts because there is no integration taught by *Poibeau*. The analysis of *Poibeau* is limited to attempting to extract data from the unstructured data. *Poibeau* teaches, for example, an attempt to recognize specific entities and titles from a document. See ¶¶[0029]-[0034].

However, this extraction of specific entities and other information fails to teach or suggest performing an analysis on data records that have been integrated with relational facts extracted from the free text as required by claim 1.

For at least these reasons, Applicant respectfully submits that claim 1 is patentable over the cited art. For at least the same reasons, claim 30 is not anticipated by *Poibeau*. The dependent claims overcome the cited art for at least the same reasons.

Rejection Under 35 U.S.C. § 103

The Office Action rejected claim 14 under 35 U.S.C. § 103(a) as being unpatentable over *Poibeau* in view of U.S. Patent Publication No. 2003/0061212 (*Smith*). Because claim 1 is believed to be in condition as described above, claim 14 is also believed to be patentable over the cited art.

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Respectfully submitted,

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